

AMENDMENT TO THE CLAIMS

1. (Currently Amended) A fuel composition ~~comprising~~ consisting essentially of:

(a) a major amount of an internal combustion engine hydrocarbon fuel containing at least one alcohol, it being provided that methyl tertiary-butyl ether is substantially absent from the fuel; and,

(b) a friction modifying amount of a ~~friction modifier consisting essentially of~~ a reaction product of at least one natural or synthetic oil and at least one alkanolamine.

2. (Original) The fuel composition of Claim 1 wherein the hydrocarbon fuel is selected from the group consisting of gasoline, diesel, kerosene and jet fuels.

3. (Currently Amended) The fuel composition of Claim 1 wherein the alcohol of the hydrocarbon fuel is selected from the group consisting of methanol, ethanol, propanol, isopropanol, butanol, t-butanol, pentanol, hexanol, heptanol, octanol, nonanol, decanol, undecanol, dodecanol, tridecanol, tetradecanol, pentadecanol, phenol and mixtures thereof.

4. (Original) The fuel composition of Claim 1 wherein the alcohol is present in the hydrocarbon fuel in an amount of less than about 25 percent by volume.

5. (Currently Amended) The fuel composition of Claim 1 wherein the reaction product is the product of a natural oil and an alkanolamine, the natural oil being a glycerol C₆-C₂₂ fatty acid ester.

6. (Previously Amended) The fuel composition of Claim 5 wherein the natural oil is selected from the group consisting of beef tallow oil, lard oil, palm oil, castor oil, cottonseed oil, corn oil, peanut oil, soybean oil, sunflower oil, olive oil, whale oil, menhaden oil, sardine oil, coconut oil, palm kernel oil, babassu oil, rape oil and soya oil.

7. (Original) The fuel composition of Claim 1 wherein the alkanolamine is selected from the group consisting of monoethanolamine, diethanolamine, propanolamine, isopropanolamine, dipropanolamine, di-isopropanolamine, butanolamines, aminoethylaminoethanol and mixtures thereof.

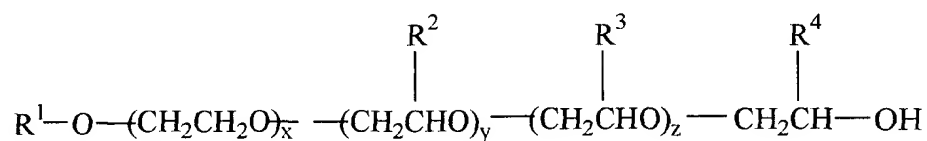
8. (Original) The fuel composition of Claim 1 wherein the weight ratio of natural or synthetic oil to alkanolamine is from about 0.2 to about 3.

9. (Original) The fuel composition of Claim 1 wherein the friction modifying amount of the reaction product of component (b) present in the fuel composition is from about 0.1 to about 1000 PTB.

10. (Currently Amended) The fuel composition of Claim 1 further ~~comprising~~ containing a carrier.

11. (Original) The fuel composition of Claim 10 wherein the carrier is a liquid carrier selected from the group consisting of substituted polyethers, cyclic polyethers aromatic polyethers and polyether alcohols.

12. (Previously Amended) The fuel composition of Claim 11 wherein the polyether alcohol possesses the general formula



wherein x is an integer from 0 to about 5, y is an integer from 1 to about 49, z is an integer from 1 to about 49 and the sum of x + y + z is equal to 3 to about 50; R¹ is an alkyl, an alicyclic or an alkylalicyclic radical having from about 4 to about 30 carbon atoms or an alkylaryl where the alkyl group is from about 4 to about 30 carbon atoms; R² and R³ each is different and is an alkyl group of from 1 to 4 carbon atoms and each oxyalkylene radical can be any combination of repeating oxyalkylene units to form random or block copolymers; and R⁴ is the same as R² and R³.

13. (Original) The fuel composition of Claim 12 wherein the polyether alcohol is a mixture of 2-(4-n-nonyl (poly(propylene oxide-co-butylene oxide) phenylether)-1-n-propyl alcohol and 2-(4-n-nonyl (poly(propylene oxide-co-butylene oxide) phenylether)-1-n-butyl alcohol.

14. (Previously Amended) The fuel composition of Claim 10 wherein the amount of the carrier present in the fuel composition is from about 10 to about 1000 PTB.

15. (Currently Amended) ~~The A~~ fuel composition of ~~Claim 1~~ further comprising

(a) a major amount of an internal combustion engine hydrocarbon fuel containing at least one alcohol, it being provided that methyl tertiary-butyl ether is substantially absent from the fuel;

(b) a friction modifying amount of a reaction product of at least one natural or synthetic oil and at least one alkanolamine; and,

(c) at least one fuel detergent.

16. (Original) The fuel composition of Claim 15 wherein the fuel detergent is selected from the group consisting of Mannich base detergents, polyetheramines, polyolefin-amines, polyolefin-polyamines, polyolefin-phenol-polyamines, polyolefin succinimides and mixtures thereof.

17. (Currently Amended) A method of operating an internal combustion engine which comprises operating the engine employing as a fuel therefor a fuel composition ~~which comprises~~ consisting essentially of:

(a) a major amount of an internal combustion engine hydrocarbon fuel containing at least one alcohol, it being provided that methyl tertiary-butyl ether is substantially absent from the fuel; and,

(b) a friction modifying amount of a ~~friction modifier consisting essentially of~~ a reaction product of at least one natural or synthetic oil and an alkanolamine.

18. (Original) The method of Claim 17 wherein the hydrocarbon fuel is selected from the group consisting of gasoline, diesel, kerosene and jet fuels.

19. (Currently Amended) The method of Claim 17 wherein the alcohol of the hydrocarbon fuel is selected from the group consisting of methanol, ethanol, propanol, isopropanol, butanol, t-butanol, pentanol, hexanol, heptanol, octanol, nonanol, decanol, undecanol, dodecanol, tridecanol, tetradecanol, pentadecanol, phenol and mixtures thereof.

20. (Original) The method of Claim 17 wherein the alcohol is added to the hydrocarbon fuel in an amount of less than about 25 percent by volume.

21. (Currently Amended) The method of Claim 17 wherein the reaction product is the product of a natural oil and an alkanolamine, the natural oil being a glycerol C₆-C₂₂ fatty acid ester.

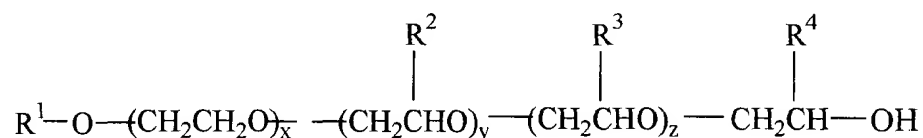
22. (Previously Amended) The method of Claim 21 wherein the natural oil is selected from the group consisting of beef tallow oil, lard oil, palm oil, castor oil, cottonseed oil, corn oil, peanut oil, soybean oil, sunflower oil, olive oil, whale oil, menhaden oil, sardine oil, coconut oil, palm kernel oil, babassu oil, rape oil and soya oil.

23. (Original) The method of Claim 17 wherein the alkanolamine is selected from the group consisting of monoethanolamine, diethanolamine, propanolamine, isopropanolamine, dipropanolamine, di-isopropanolamine, butanolamines, aminoethylaminoethanol and mixtures thereof.

24. (Original) The method of Claim 17 wherein the weight ratio of natural or synthetic oil to alkanolamine is from about 0.2 to about 3.

25. (Original) The method of Claim 17 wherein the fuel composition further ~~comprises~~ contains a carrier.

26. (Previously Amended) The method of Claim 25 wherein the carrier is a polyether alcohol of the general formula



wherein x is an integer from 0 to about 5, y is an integer from 1 to about 49, z is an integer from 1 to about 49 and the sum of x + y + z is equal to 3 to about 50; R¹ is an alkyl, an alicyclic or an alkylalicyclic radical having from about 4 to about 30 carbon atoms or an alkylaryl where the alkyl group is from about 4 to about 30 carbon atoms; R² and R³ each is different and is an alkyl group of from 1 to 4 carbon atoms and each oxyalkylene radical can be any combination of repeating oxyalkylene units to form random or block copolymers; and R⁴ is the same as R² and R³.

27. (Original) The method of Claim 25 wherein the amount of the carrier present in the fuel composition is from about 10 to about 1000 PTB.

28. (Currently Amended) ~~The method of Claim 17 wherein the~~ A method of operating
an internal combustion engine which comprises operating the engine employing as a fuel
therefore a fuel composition further comprises comprising

(a) a major amount of an internal combustion engine hydrocarbon fuel containing at least
one alcohol, it being provided that methyl tertiary-butyl ether is substantially absent from the
fuel;

(b) a friction modifying amount of a reaction product of at least one natural or synthetic
oil and an alkanolamine; and,

(c) at least one fuel detergent.

29. (Original) The method of Claim 28 wherein the fuel detergent is selected from the
group consisting of Mannich base detergents, polyetheramines, polyolefin-amines, polyolefin-
polyamines, polyolefin-phenol-polyamines, polyolefin succinimides and mixtures thereof.

30. (Currently Amended) A method of reducing friction in an internal combustion
engine comprising the step of adding to the engine a fuel composition ~~comprising~~ consisting
essentially of:

(a) a major amount of an internal combustion engine hydrocarbon fuel containing at least
one alcohol, it being provided that methyl tertiary-butyl ether is substantially absent from the
fuel; and,

(b) a friction modifying amount of a ~~friction modifier consisting essentially of~~ a reaction
product of at least one natural or synthetic oil and at least one alkanolamine.

31. (Original) The method of Claim 30 wherein the hydrocarbon fuel is selected from the group consisting of gasoline, diesel, kerosene and jet fuels.

32. (Currently Amended) The method of Claim 30 wherein the alcohol of the hydrocarbon fuel is selected from the group consisting of methanol, ethanol, propanol, isopropanol, butanol, t-butanol, pentanol, hexanol, heptanol, octanol, nonanol, decanol, undecanol, dodecanol, tridecanol, tetradecanol, pentadecanol, phenol and mixtures thereof.

33. (Original) The method of Claim 30 wherein the alcohol is added to the hydrocarbon fuel in an amount of less than about 25 percent by volume.

34. (Currently Amended) The method of Claim 30 wherein the reaction product is the product of a natural oil and an alkanolamine, the natural oil being a glycerol C₆-C₂₂ fatty acid ester.

35. (Previously Amended) The method of Claim 34 wherein the natural oil is selected from the group consisting of beef tallow oil, lard oil, palm oil, castor oil, cottonseed oil, corn oil, peanut oil, soybean oil, sunflower oil, olive oil, whale oil, menhaden oil, sardine oil, coconut oil, palm kernel oil, babassu oil, rape oil and soya oil.

36. (Original) The method of Claim 30 wherein the alkanolamine is selected from the group consisting of monoethanolamine, diethanolamine, propanolamine, isopropanolamine, dipropanolamine, di-isopropanolamine, butanolamines, aminoethylaminoethanol and mixtures thereof.

37. (Original) The method of Claim 30 wherein the weight ratio of natural or synthetic oil to alkanolamine is from about 0.2 to about 3.

38. (New) The fuel composition of Claim 15 wherein the hydrocarbon fuel is gasoline.

39. (New) The fuel composition of Claim 15 wherein the alcohol of the hydrocarbon fuel is selected from the group consisting of methanol, ethanol, propanol, isopropanol, butanol, t-butanol, pentanol, hexanol, heptanol, octanol, nonanol, decanol, undecanol, dodecanol, tridecanol, tetradecanol, pentadecanol, phenol and mixtures thereof.

40. (New) The fuel composition of Claim 15 wherein the alcohol is present in the hydrocarbon fuel in an amount of less than about 25 percent by volume.

41. (New) The fuel composition of Claim 15 wherein the reaction product is the product of a natural oil and an alkanolamine, the natural oil being a mixed C₆-C₂₂ fatty acid ester.

42. (New) The fuel composition of Claim 15 wherein the natural oil is selected from the group consisting of beef tallow oil, lard oil, palm oil, castor oil, cottonseed oil, corn oil, peanut oil, soybean oil, sunflower oil, olive oil, whale oil, menhaden oil, sardine oil, coconut oil, palm kernel oil, babassu oil, rape oil and soya oil.

43. (New) The fuel composition of Claim 42 wherein the alkanolamine is selected from the group consisting of monoethanolamine, diethanolamine, propanolamine, isopropanolamine, dipropanolamine, di-isopropanolamine, butanolamines, aminoethylaminoethanol and mixtures thereof.

44. (New) The fuel composition of Claim 15 wherein the reaction product is the product of a synthetic oil and an alkanolamine, the synthetic oil being selected from the group consisting of alkoxylated alkylphenols, alkoxylated alcohols, polyalkeneoxide based alcohols and diols, ethers of polyalkeneoxide based alcohols and diols, esters of alkoxylated alkylphenols with carboxylic acids, esters of alkoxylated alcohols with carboxylic acids, esters of polyalkeneoxide based alcohols and diols with carboxylic acids, ethers of alkoxylated alkylphenols, ethers of alkoxylated alcohols, ethers of polyalkeneoxide based alcohols and diols, esters of aliphatic acids, esters of aliphatic alcohols and mixtures thereof.

45. (New) The fuel composition of Claim 44 wherein the alkanolamine is selected from the group consisting of monoethanolamine, diethanolamine, propanolamine, isopropanolamine, dipropanolamine, di-isopropanolamine, butanolamines, aminoethylaminoethanol and mixtures thereof.

46. (New) The fuel composition of Claim 15 further comprising a carrier.

47. (New) The fuel composition of Claim 46 wherein the carrier is a liquid carrier selected from the group consisting of substituted polyethers, cyclic polyethers aromatic polyethers and polyether alcohols.

48. (New) The method of Claim 28 wherein the hydrocarbon fuel is gasoline.

49. (New) The method of Claim 28 wherein the alcohol of the hydrocarbon fuel is selected from the group consisting of methanol, ethanol, propanol, isopropanol, butanol, t-butanol, pentanol, hexanol, heptanol, octanol, nonanol, decanol, undecanol, dodecanol, tridecanol, tetradecanol, pentadecanol, phenol and mixtures thereof.

50. (New) The method of Claim 28 wherein the alcohol is present in the hydrocarbon fuel in an amount of less than about 25 percent by volume.

51. (New) The method of Claim 28 wherein the reaction product is the product of a natural oil and an alkanolamine, the natural oil being a mixed C₆-C₂₂ fatty acid ester.

52. (New) The method of Claim 28 wherein the natural oil is selected from the group consisting of beef tallow oil, lard oil, palm oil, castor oil, cottonseed oil, corn oil, peanut oil, soybean oil, sunflower oil, olive oil, whale oil, menhaden oil, sardine oil, coconut oil, palm kernel oil, babassu oil, rape oil and soya oil.

53. (New) The method of Claim 52 wherein the alkanolamine is selected from the group consisting of monoethanolamine, diethanolamine, propanolamine, isopropanolamine, dipropanolamine, di-isopropanolamine, butanolamines, aminoethylaminoethanol and mixtures thereof.

54. (New) The method of Claim 28 wherein the reaction product is the product of a synthetic oil and an alkanolamine, the synthetic oil being selected from the group consisting of alkoxyated alkylphenols, alkoxyated alcohols, polyalkeneoxide based alcohols and diols, ethers of polyalkeneoxide based alcohols and diols, esters of alkoxyated alkylphenols with carboxylic acids, esters of alkoxyated alcohols with carboxylic acids, esters of polyalkeneoxide based alcohols and diols with carboxylic acids, ethers of alkoxyated alkylphenols, ethers of alkoxyated alcohols, ethers of polyalkeneoxide based alcohols and diols, esters of aliphatic acids, esters of aliphatic alcohols and mixtures thereof.

55. (New) The method of Claim 54 wherein the alkanolamine is selected from the group consisting of monoethanolamine, diethanolamine, propanolamine, isopropanolamine, dipropanolamine, di-isopropanolamine, butanolamines, aminoethylaminoethanol and mixtures thereof.

56. (New) The method of Claim 28 further comprising a carrier.

57. (New) The method of Claim 56 wherein the carrier is a liquid carrier selected from the group consisting of substituted polyethers, cyclic polyethers aromatic polyethers and polyether alcohols.

58. (New) The fuel composition of Claim 1 wherein the reaction product is the product of a natural oil and an alkanolamine, the natural oil being a mixed C₆-C₂₂ fatty acid ester.

59. (New) The fuel composition of Claim 58 wherein the natural oil is selected from the group consisting of beef tallow oil, lard oil, palm oil, castor oil, cottonseed oil, corn oil, peanut oil, soybean oil, sunflower oil, olive oil, whale oil, menhaden oil, sardine oil, coconut oil, palm kernel oil, babassu oil, rape oil and soya oil.

60. (New) The fuel composition of Claim 1 wherein the reaction product is the product of a synthetic oil and an alkanolamine, the synthetic oil being selected from the group consisting of alkoxyated alkylphenols, alkoxyated alcohols, polyalkeneoxide based alcohols and diols, ethers of polyalkeneoxide based alcohols and diols, esters of alkoxyated alkylphenols with carboxylic acids, esters of alkoxyated alcohols with carboxylic acids, esters of polyalkeneoxide based alcohols and diols with carboxylic acids, ethers of alkoxyated alkylphenols, ethers of alkoxyated alcohols, ethers of polyalkeneoxide based alcohols and diols, esters of aliphatic acids, esters of aliphatic alcohols and mixtures thereof.

61. (New) The method of Claim 17 wherein the reaction product is the product of a natural oil and an alkanolamine, the natural oil being a mixed C₆-C₂₂ fatty acid ester.

62. (New) The method of Claim 61 wherein the natural oil is selected from the group consisting of beef tallow oil, lard oil, palm oil, castor oil, cottonseed oil, corn oil, peanut oil, soybean oil, sunflower oil, olive oil, whale oil, menhaden oil, sardine oil, coconut oil, palm kernel oil, babassu oil, rape oil and soya oil.

63. (New) The method of Claim 17 wherein the reaction product is the product of a synthetic oil and an alkanolamine, the synthetic oil being selected from the group consisting of alkoxyated alkylphenols, alkoxyated alcohols, polyalkeneoxide based alcohols and diols, ethers of polyalkeneoxide based alcohols and diols, esters of alkoxyated alkylphenols with carboxylic acids, esters of alkoxyated alcohols with carboxylic acids, esters of polyalkeneoxide based alcohols and diols with carboxylic acids, ethers of alkoxyated alkylphenols, ethers of alkoxyated alcohols, ethers of polyalkeneoxide based alcohols and diols, esters of aliphatic acids, esters of aliphatic alcohols and mixtures thereof.